

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

The specification is amended by the present Response to correct minor informalities. The specification also amends the disclosure to address the informality noted in paragraph 4 of the Office Action at page 1, line 24. With respect to the objection noted at page 3, line 12, applicants believe that at that portion the term “intrinsic” is properly spelled.

Claims 1-20 are pending in this application. Claims 17, 19, and 20 were rejected under 35 U.S.C. § 112, second paragraph. Claims 1-7 and 17-20 were rejected under 35 U.S.C. § 101. Claims 1-20 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. patent 6,083,282 to Caron et al. (herein “Caron”) in view of U.S. patent 6,247,174 to Santhanam et al. (herein “Santhanam”).

Addressing now the rejection of claims 17, 19, and 20 under 35 U.S.C. § 112, first paragraph, that rejection is traversed by the present response. Specifically, claim 17 is now more particularly directed to a “program product for causing a computer to execute a program for generating object code from an input source program, said program comprising...”. The operations now recited in claim 17 are processes performed by the program. Further, claims 19 and 20 are similarly amended as in claim 17.

The presently submitted amendments to claims 17, 19, and 20 are believed to address the rejections thereto under 35 U.S.C. § 112, second paragraph.

Addressing now the rejection of claims 1-7 and 17-20 under 35 U.S.C. § 101, that rejection is traversed by the present response.

Claims 1-7 and 17-20 were rejected as amounting to only an abstract idea and being non-statutory. In that respect applicants first note each of those claims is amended by the present response to be more clearly directed to a “compiler system”. Further, applicants submit the noted claims clearly recite statutory subject matter as, for example, claims 1-7 are

directed to a system that includes structural elements, and claims 17-20 are directed to a program product, which is a statutory class of subject matter.

In view of the presently submitted amendments and foregoing comments, applicants respectfully submit each of claims 1-7 and 17-20 is in full compliance with all requirements under 35 U.S.C. § 101.

Addressing now the rejection of claims 1-20 under 35 U.S.C. § 103(a) as unpatentable over Caron in view of Santhanam, that rejection is traversed by the present response.

The claims are amended by the present response to clarify features recited therein. For example independent claim 1 now recites both first and second syntax analyzers, which subject matter is believed to be fully supported by the original specification for example at page 10, line 25 to page 11, line 8, page 14, lines 11-25, and Figure 4. The other independent claims are similarly amended as in independent claim 1 noted above.

Independent claim 1 as an example is directed to a compiler system that enables a user to customize intrinsics functions with an instruction that is not originally capable of being interpreted by a compiler but is capable of operating a processor, by adding definitions of an intrinsics function from external of the compiler, for example at a start-up time or during processing of compiling source programs.

More particularly, in the claimed compiler system of claim 1 tokens divided from an input source program are analyzed by a first syntax analyzer, and the first syntax analyzer judges whether or not a definition of an intrinsics function and its kind of operand is included in a combination of the tokens. Then, a second syntax analyzer is configured to find a reserved pre-processing instruction in the combination of the tokens and, if found, to add the instruction attribute information described in the pre-processing instruction to the definition of the intrinsics function in the database. Thereby, all intrinsics functions within a source program are capable of being incorporated into an intermediate code or a target machine

language. The other independent claims recite similar features as in independent claim 1 noted above.

With the claimed operation, since the claimed compiling system or operation performs two phase definition and syntax analyzing processings, a first for a definition of the intrinsics functions such as an identifier name of the intrinsics function and its kind of operand, and a second for an instruction attribute information such as a specification of a resource (e.g., a register) and distinction of a co-processor instruction/core processor instructed by a pre-processing instruction, a user is freely capable of adding various types and details of attribute information characterizing an instruction coded in the intrinsics functions.

The outstanding rejection recognizes that Caron does not disclose whether or not a definition of an intrinsics function and instruction attribute information characterizing an instruction code in an intrinsics function is included in the combination of tokens, Caron does not disclose an intrinsics function information database, and Caron does not disclose a code generator.¹ To overcome the recognized deficiencies in Caron the outstanding rejection cites the teachings in Santhanam. Specifically, the Office Action relies on Santhanam to disclose whether or not a definition of an intrinsics function and an instruction attribute information characterizing an instruction code in intrinsics function is included in the combination of tokens, an intrinsics function information database into which a definition of the intrinsics function and the instruction attribute information are stored as intrinsics function information, and a code generator that develops an instruction that calls an intrinsics function within the source program by referring to the intrinsics function information.²

However, applicants respectfully submit that no combination of teachings of Caron in view of Santhanam meets the claim limitations as currently written.

¹ Office Action of June 25, 2004, the paragraph bridging pages 4-5

² Office Action of June 25, 2004, page 5, last paragraph

Santhanam merely discloses a one-phase definition and syntax analyzing processing in which the instruction attribute information is described in a same code line as the definition of the intrinsics function and its operand (see Santhanam at column 3, lines 9-62).

Thereby, neither Caron nor Santhanam disclose or suggest the clarified operations of two phase definition, and specifically the claimed “first syntax analyzer” and “second syntax analyzer”. In the claimed invention the first syntax analyzer judges whether or not a definition of an intrinsics function and its kinds of operand is included in a combination of the tokens, and the second syntax analyzer, if finding a reserved pre-processing instruction in the combination of the tokens, adds instruction attribute information described in the pre-processing instruction to the definition of the intrinsics function in the database. Neither Caron nor Santhanam disclose or suggest such first and second syntax analyzers, nor operations performed by such first and second syntax analyzers.

With the claimed invention a user is independently and freely capable of adding various types and detail of attribute information characterizing an instruction coded in the intrinsics functions. Caron nor Butler do not disclose or suggest achieving such an objective or the claimed structures that realizes such an objective.

In such ways, applicants respectfully submit the claims as currently written distinguish over Caron in view of Santhanam.

As no other issues are pending in this application, it is respectfully submitted that the present application is now in condition for allowance, and it is hereby respectfully requested that this case be passed to issue.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
GJM/SNS:sjh

I:\ATTYSNS\21'S\211316\211316US-AM DUE 122504.DOC

Eckhard H. Kuesters
Registration No. 28,870
Surinder Sachar
Registration No. 34,423
Attorneys of Record